Amendment to the Claims:

1. (Currently Amended) A method for controlling a clamping voltage across a terminal of a transistor comprising:

providing a first clamping voltage in a conductive loop that includes the terminal of the transistor for a first specified period of time;

reducing the first clamping voltage to an intermediate clamping voltage;

holding the intermediate clamping voltage for a specified period of time; and

repeating the reducing and the holding until the intermediate clamping voltage is essentially equal to a final clamping voltage[[.]] <u>wherein intervals between clamping voltage levels are equal.</u>

2. (Cancelled)

3. (Currently Amended) The method of claim [[2]] <u>1</u>, wherein the first specified period of time and the specified period of time are equal.

4. (Original) The method of claim 1, wherein intervals between clamping voltage levels are different.

5. (Original) The method of claim 1, wherein the terminal is a gate of the transistor.

6. (Original) The method of claim 1, wherein the terminal is a drain of the transistor.

7. (Original) The method of claim 1, wherein the transistor is a field effect transistor.

8. (Original) A method for rapidly removing a current from an inductive load without current undershoot comprising:

setting a variable current source to produce a first current;

holding the variable current source output for a first period of time;

checking if a terminating condition is met;

setting the variable current source to produce a second current for a second period of time, wherein the second current is smaller than the first current, if the terminating condition is not met; and

repeating the checking and the setting.

9. (Original) The method of claim 8, wherein the terminating condition checks to see if a voltage across the inductive load has reached a specified threshold.

10. (Original) The method of claim 8, wherein the terminating condition checks to see if the variable current source has produced all of the currents in a specified sequence of currents.

11. (Original) The method of claim 8, wherein a change between consecutive pairs of currents is the same.

12(Original) The method of claim 8, wherein a change between consecutive pairs of currents can differ, and wherein a change between consecutive pairs of currents decreases each time the variable current source produces a different current.

13. (Original) The method of claim 8, wherein each current is produced for a specified period of time, and wherein all specified periods of time are equal.

14. (Currently Amended) A circuit comprising:

a driver circuit coupled to an inductive load, the driver circuit containing circuitry to control a current built up across the inductive load; and

a voltage varying circuit coupled to the driver circuit, the voltage varying circuit containing circuitry to produce a sequence of voltages[[.]] wherein the voltage varying circuit comprises:

a variable current source to produce an output current of variable magnitude depending upon an input signal; and

a snub resistor coupled in parallel to the variable current source.

15. (Original) The circuit of claim 14, wherein the sequence of voltages is a decreasing sequence of voltage levels.

16. (Cancelled)

17. (Currently Amended) The circuit of claim [[16]] 14, wherein the snub resistor is coupled to the variable current source via a switch.

18. (Currently Amended) The circuit of claim [[16]] 14, wherein the variable current source comprises:

a plurality of current sources, each current source capable of producing a current at a fixed magnitude; and

a plurality of switches, each switch serially coupled to the one current source from the plurality of current sources.

19. (Original) The circuit of claim 18, wherein the input signal can be used to control the state of each switch from the plurality of switches.

20. (Original) The circuit of claim 18, wherein the variable current source produces an output current equal to the sum of the individual current sources which have their switches closed.

21. (Original) The circuit of claim 18, wherein the currents produced by the current sources are equal.

22. (Original) The circuit of claim 18, wherein the currents produced by the current sources are different, and wherein the currents increase in an exponential fashion.

23. (Original) The circuit of claim 22, wherein the base of the exponential growth is two (2).

24. (Currently Amended) The circuit of claim [[16]] <u>14</u>, wherein the snub resistor is coupled to the variable current source with a switch, and wherein when the switch is closed, a voltage drop equal to the output current of the variable current source times the resistance of the snub resistor is produced across the snub resistor.

25. (Currently Amended) The circuit of claim 14, wherein the ~~voltage varying circuit~~ snub resistor comprises:

~~a current source; and~~

a serial chain of resistors coupled in parallel to the variable current source, each resistor is coupled in parallel to a switch, wherein each switch is controlled by a control signal, and wherein an effective resistance of a resistor and switch combination is equal to the resistance of the resistor when the switch is open and is equal to zero when the switch is closed.

26. (Original) The circuit of claim 25, wherein each resistor in the serial chain has essentially equal resistance.

27. (Original) The circuit of claim 14, wherein the driver circuit comprises:

a first high side drive circuit coupled to a supply voltage source, the first high side drive circuit to permit current from the inductive load to dissipate into the supply voltage source;

a second high side drive circuit coupled to the first high side drive circuit and the current varying circuit, the second high side drive circuit to allow a voltage drop generated by the current varying circuit to appear in the driver circuit; and

a low side drive circuit coupled to the current varying circuit and the inductive load, the low side drive circuit to regulate the current build up across the inductive load.

28. (Original) The circuit of claim 27, wherein each drive circuit comprises a metal oxide semiconductor field effect transistor (MOSFET) coupled in parallel with a body diode.

29. (Original) The circuit of claim 28, wherein the source terminals of the field effect transistors in the first and second high side drive circuits are coupled together.

30. (Original) The circuit of claim 14, wherein the driver circuit is a low-side driver circuit.

31. (Original) The circuit of claim 14, wherein the driver circuit is a full H-bridge circuit.

32. (Original) The circuit of claim 14, wherein the driver circuit is a half bridge circuit.

33. (Original) The circuit of claim 14, wherein the inductive load is a solenoid mechanism for an automotive brake.

34. (Original) The circuit of claim 14 further comprising a snub stack coupled in parallel to the driver circuit and the current varying circuit, the snub stack to produce a fixed voltage drop.

35. (Original) The circuit of claim 34, wherein either the current varying circuit or the snub stack can be enabled.

36. (Original) The circuit of claim 34, wherein the snub stack can offer electrostatic discharge protection.